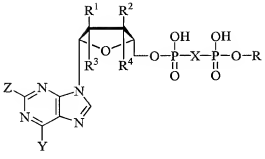
**WE CLAIM:**

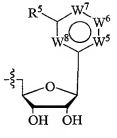
1. A compound of the formula (**I**):



**(I)**

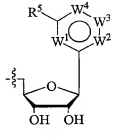
or its pharmaceutically acceptable salt thereof; wherein

R is



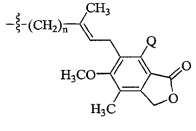
**(II)**

,



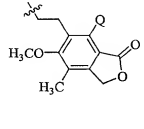
**(III)**

,



**(IV)**

or



**(V)**

;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

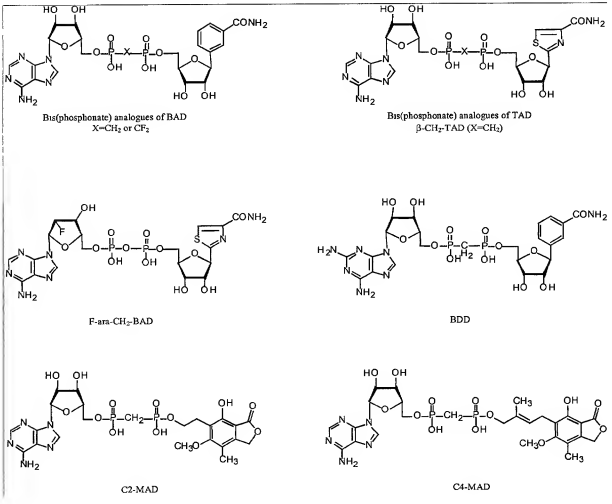
$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

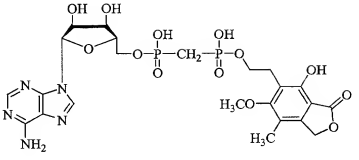
wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD).

2. The compound of Claim 1, wherein the compound of formula (**I**) is selected from the group consisting of the following:



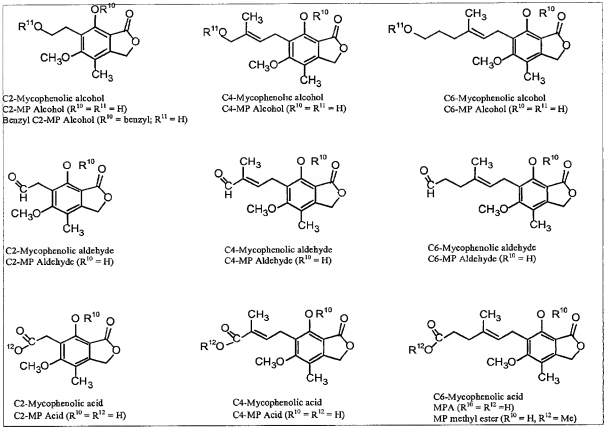

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

3. A compound of the formula:



or its pharmaceutically acceptable salt thereof.

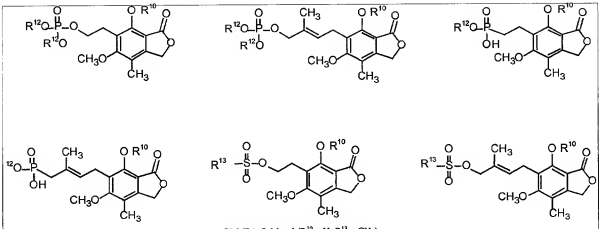
4. A compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl.

5. A compound selected from the group consisting of the following:



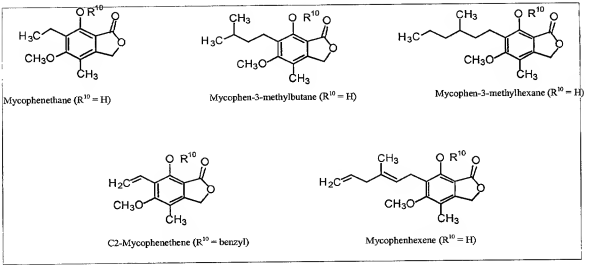

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl.

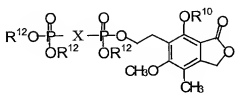
6. A compound selected from the group consisting of the following:

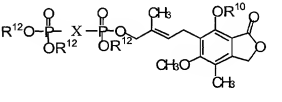



or its pharmaceutically acceptable salt thereof; wherein

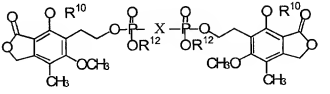
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group.

7. A compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



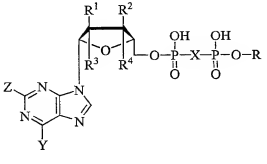
or its pharmaceutically acceptable salt thereof, wherein

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl.

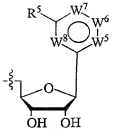
8. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound of the formula (**I**):



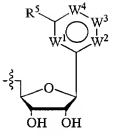
(**I**)

or its pharmaceutically acceptable salt thereof; wherein

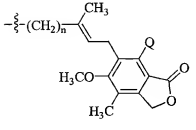
R is



(II)

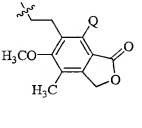


(III)



(IV)

or



(V) ;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

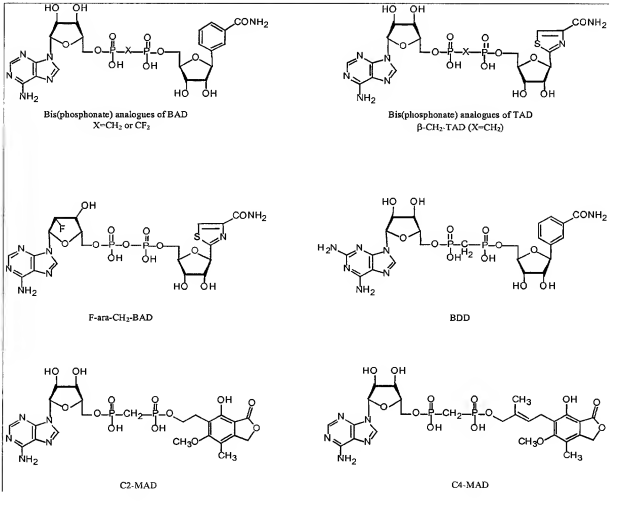
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

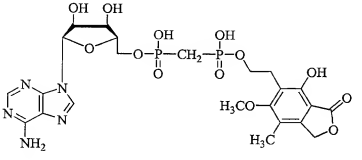
in a pharmaceutically acceptable carrier or diluent.

9. The pharmaceutical composition of Claim 8, wherein the compound of formula (**I**) is selected from the group consisting of the following:



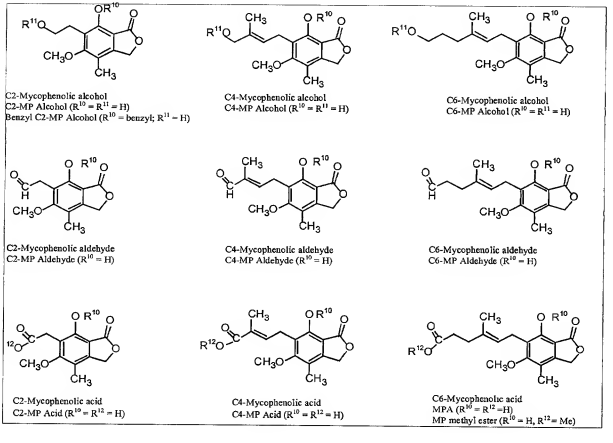

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

10. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound of the formula:



or its pharmaceutically acceptable salt thereof, in a pharmaceutically acceptable carrier or diluent.

11. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:

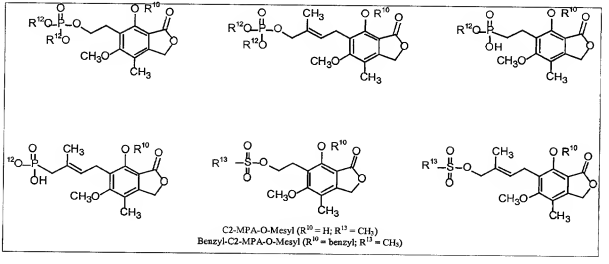


or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

in a pharmaceutically acceptable carrier or diluent.

12. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

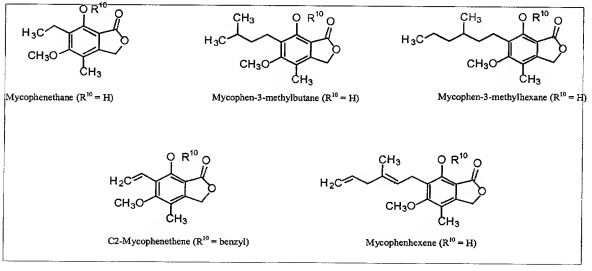
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

in a pharmaceutically acceptable carrier or diluent.

13. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:

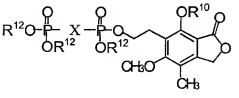


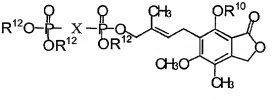

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

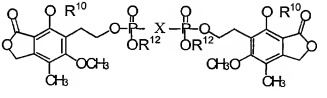
in a pharmaceutically acceptable carrier or diluent.

14. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

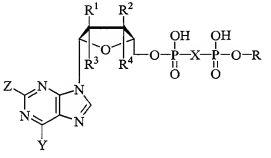
X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

in a pharmaceutically acceptable carrier or diluent.

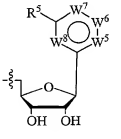
15. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound of the formula (I):



(I)

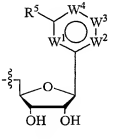
or its pharmaceutically acceptable salt thereof; wherein

R is



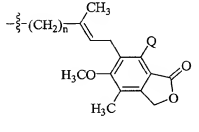
(II)

,



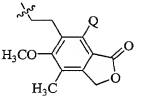
(III)

,



(IV)

or



(V)

;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

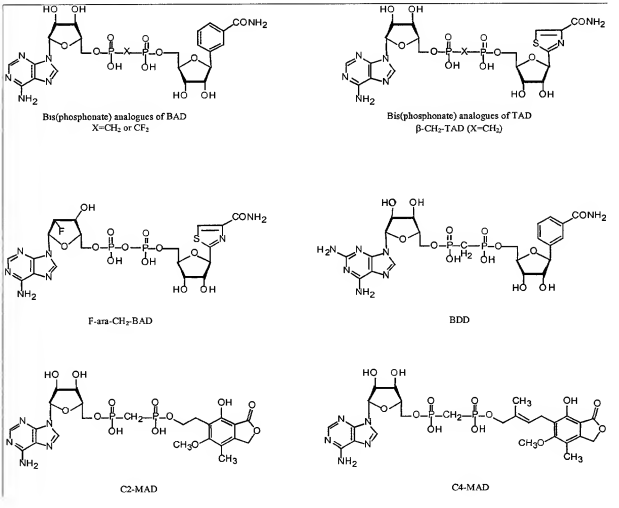
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

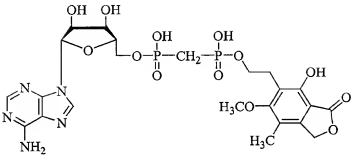
in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

16. The pharmaceutical composition of Claim 15, wherein the compound of formula (**I**) is selected from the group consisting of the following:



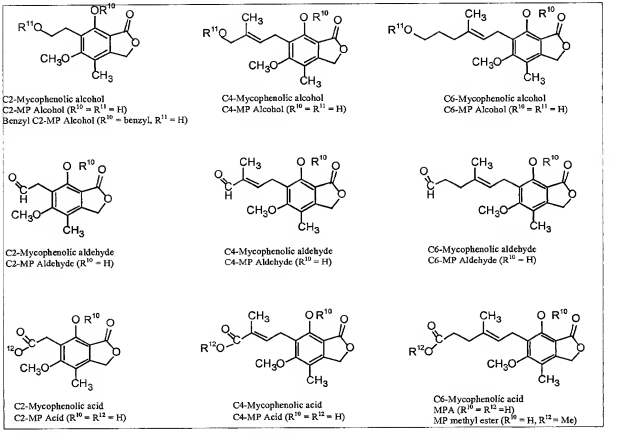

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

17. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound of the formula:



or its pharmaceutically acceptable salt thereof, in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

18. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:

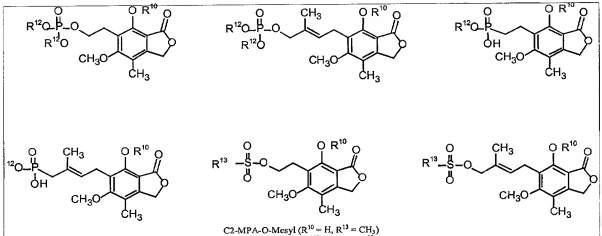



or its pharmaceutically acceptable salt thereof, wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

19. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

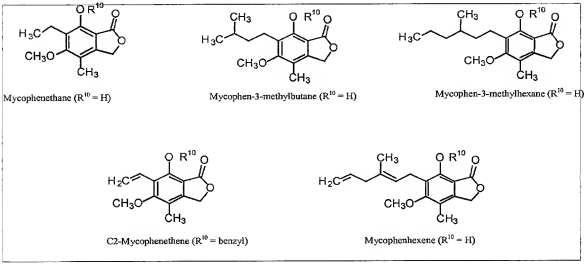
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

20. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:

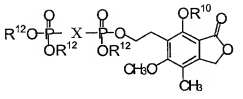


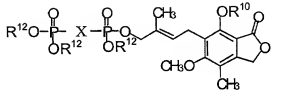

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

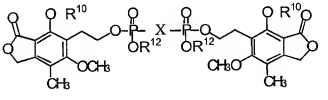
in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

21. A pharmaceutical composition for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

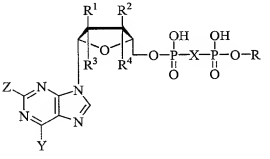
X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

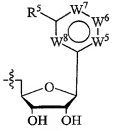
22. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound of the formula (I):



(I)

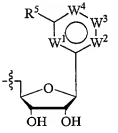
or its pharmaceutically acceptable salt thereof; wherein

R is



(II)

,



(III)

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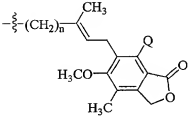
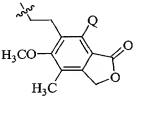


(IV)

or



(V)

;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

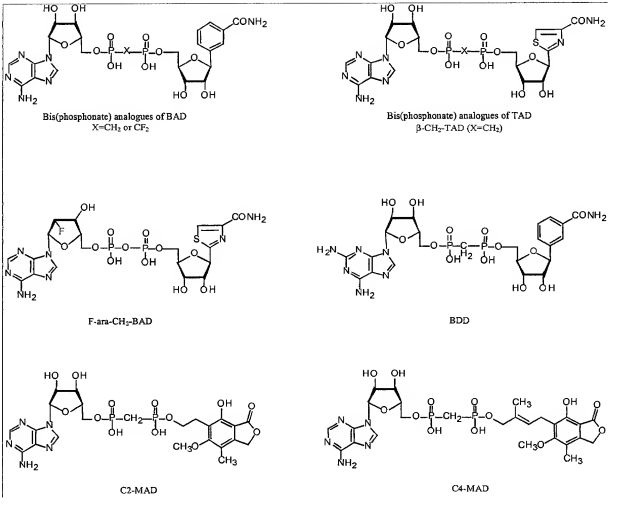
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

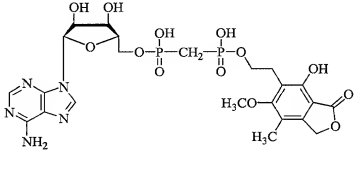
optionally in a pharmaceutically acceptable carrier or diluent.

23. The method of Claim 22, wherein the compound of formula (I) is selected from the group consisting of the following:



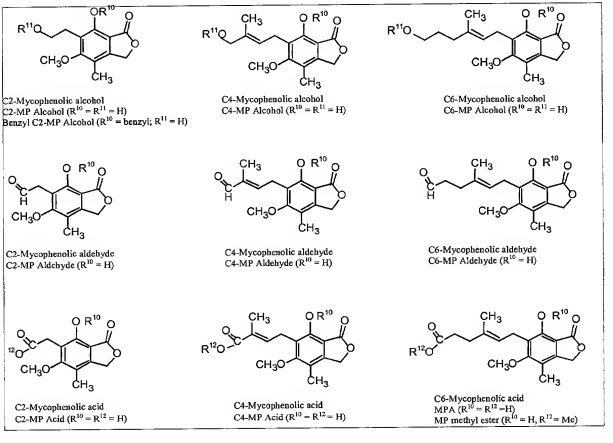

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

24. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound of the formula:



or its pharmaceutically acceptable salt thereof, optionally in a pharmaceutically acceptable carrier or diluent.

25. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

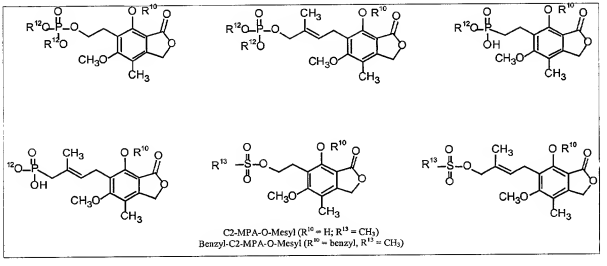



or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

optionally in a pharmaceutically acceptable carrier or diluent.

26. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

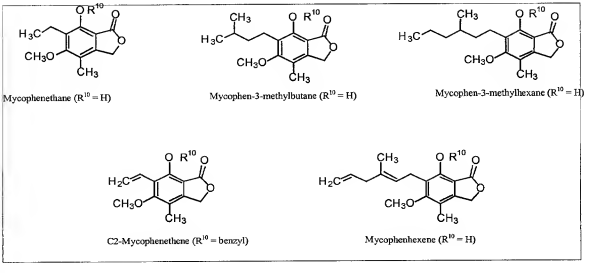
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

optionally in a pharmaceutically acceptable carrier or diluent.

27. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

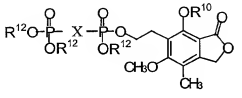


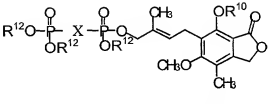

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

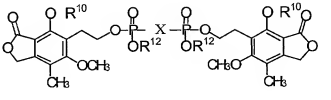
optionally in a pharmaceutically acceptable carrier or diluent.

28. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

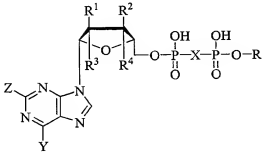
X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

optionally in a pharmaceutically acceptable carrier or diluent.

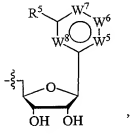
29. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound of the formula **(I)**:



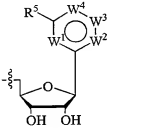
**(I)**

or its pharmaceutically acceptable salt thereof; wherein

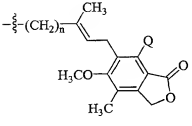
R is



**(II)**

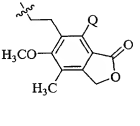


**(III)**



**(IV)**

or



**(V)** ;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

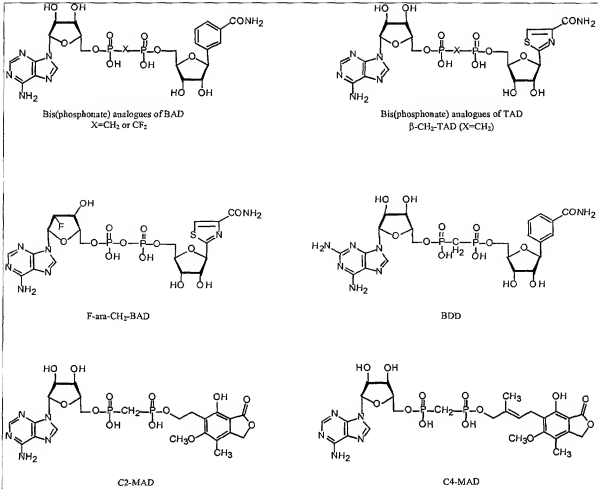
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

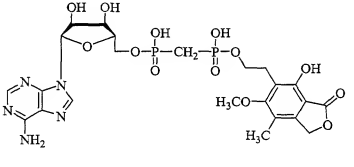
in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

30. The method of Claim 29, wherein the compound of formula (**I**) is selected from the group consisting of the following:



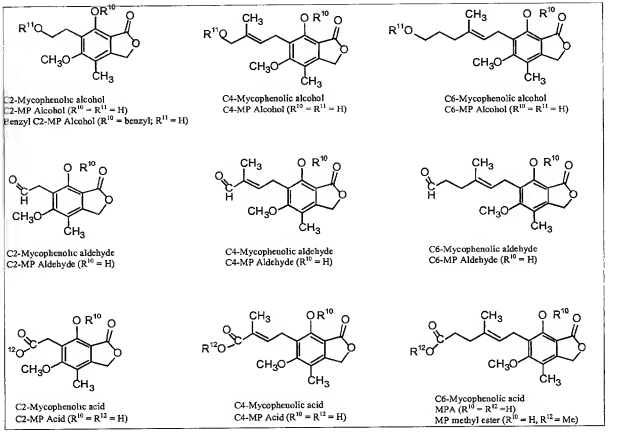

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

31. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound of the formula;



or its pharmaceutically acceptable salt thereof, in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

32. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

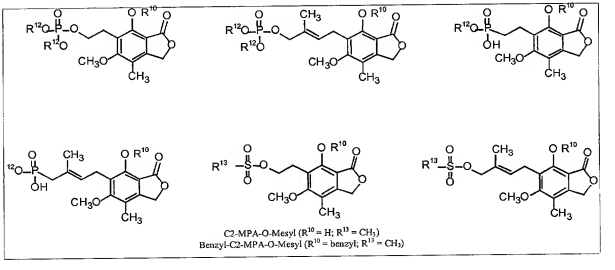



or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

33. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

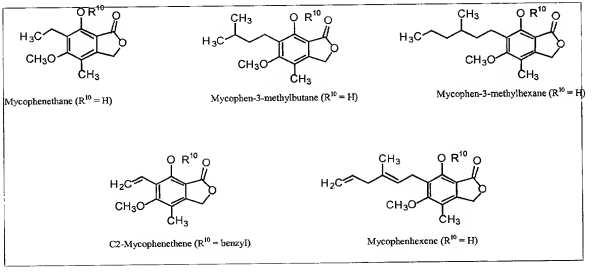
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

34. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

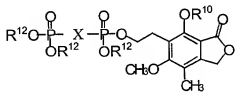


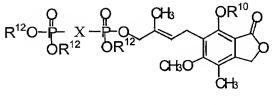

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

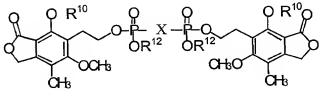
in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

35. A method for the treatment or prophylaxis of a Flaviviridae infection in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

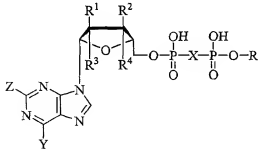
X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination or alternation with one or more other antivirally effective agent, optionally in a pharmaceutically acceptable carrier or diluent.

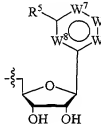
36. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound of the formula (I):



(I)

or its pharmaceutically acceptable salt thereof; wherein

R is



(II)

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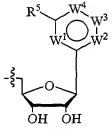
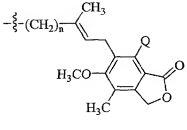


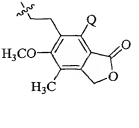
(III)

,



(IV)

or



(V)

;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

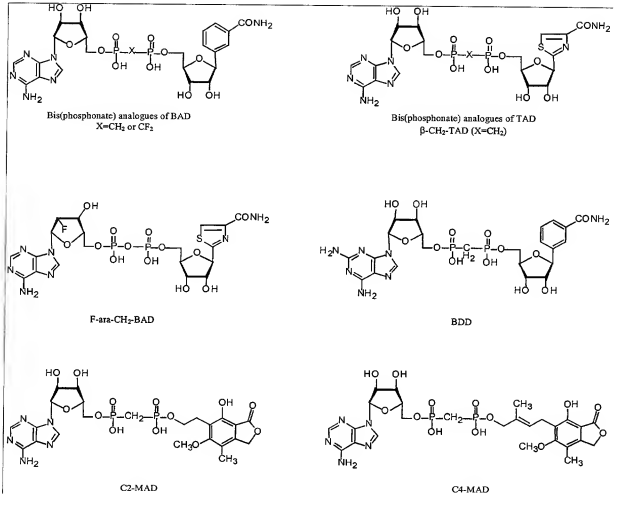
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

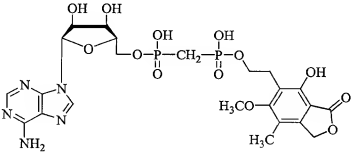
optionally in a pharmaceutically acceptable carrier or diluent.

37. The method of Claim 22, wherein the compound of formula (**I**) is selected from the group consisting of the following:



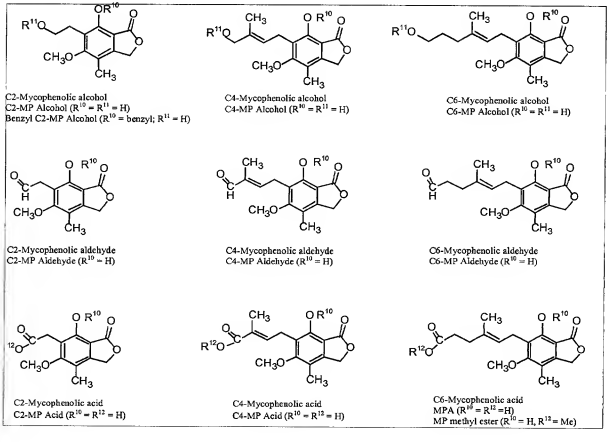

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

38. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound of the formula:



or its pharmaceutically acceptable salt thereof, optionally in a pharmaceutically acceptable carrier or diluent.

39. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

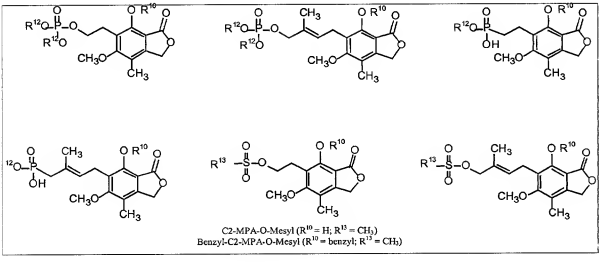



or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

optionally in a pharmaceutically acceptable carrier or diluent.

40. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

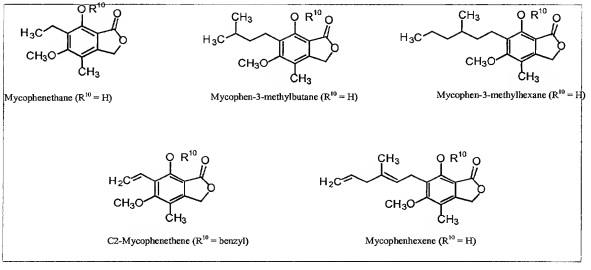
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

optionally in a pharmaceutically acceptable carrier or diluent.

41. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

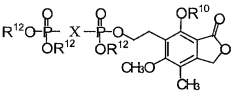


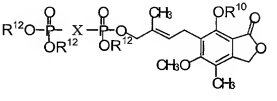

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

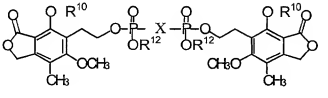
optionally in a pharmaceutically acceptable carrier or diluent.

42. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

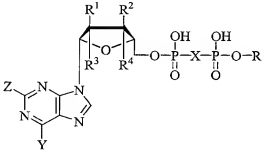
X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

optionally in a pharmaceutically acceptable carrier or diluent.

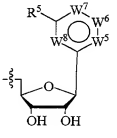
43. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound of the formula **(I)**:



**(I)**

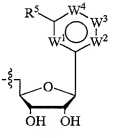
or its pharmaceutically acceptable salt thereof; wherein

R is



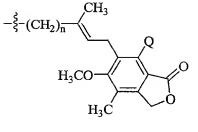
**(II)**

,



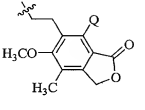
**(III)**

,



**(IV)**

or



**(V)**

;

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene;

Y is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^6$, $NR^6R^7$, NHOH, $NHOR^6$, $NHNH_2$, $NR^6NH_2$, $NHNHR^6$, SH, $SR^6$, OH or $OR^6$;

Z is hydrogen, halogen (F, Cl, Br, I), $NH_2$, $NHR^8$, $NR^8R^9$, NHOH, $NHOR^8$, $NHNH_2$, $NR^8NH_2$, $NHNHR^8$, SH, $SR^8$, OH, $OR^8$;

$W^1$-$W^4$ are same or different, and independently methyne (-CH=), azomethyne (-N=) or sulfur;

$W^5$-$W^8$ are same or different, and independently methyne (-CH=) or azomethyne (-N=);

$R^1$, $R^2$, $R^3$ and $R^4$ are independently hydrogen, hydroxyl or fluorine;

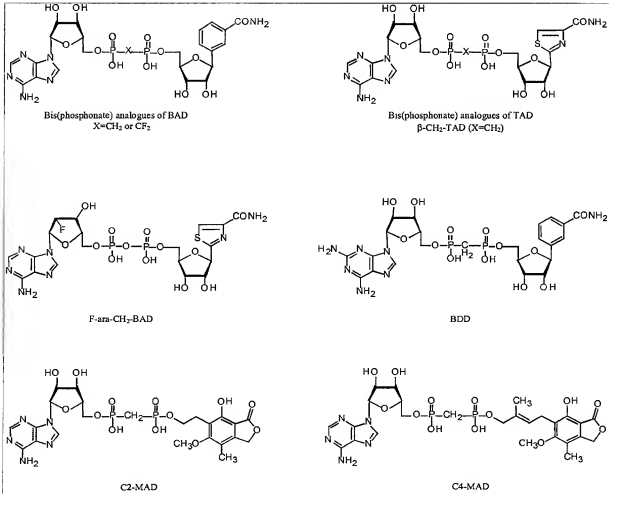
$R^5$ is halogen (F, Cl, Br, I), CN, $CONH_2$, $CO_2Me$, $CO_2Et$ or $CO_2H$; and

$R^6$, $R^7$, $R^8$ and $R^9$ are independently a lower alkane or alkene of 1, 2, 3, 4, 5 or 6 carbons or aryl or aralkyl;

wherein the compound is specifically not tiazole-4-carboxamide adenine dinucleotide (TAD) or benzamide adenine dinucleotide (BAD);

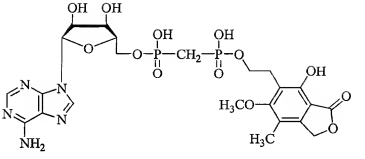
in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

44. The method of Claim 29, wherein the compound of formula (**I**) is selected from the group consisting of the following:



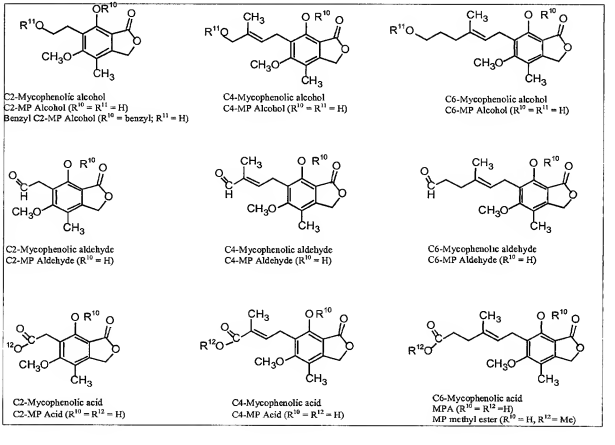

or its pharmaceutically acceptable salt thereof, wherein X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene.

45. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound of the formula;



or its pharmaceutically acceptable salt thereof, in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

46. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

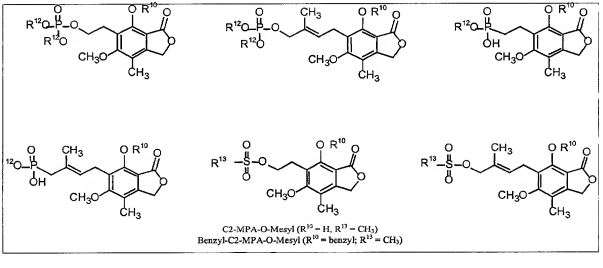



or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ and $R^{11}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group, and each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

47. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:




or its pharmaceutically acceptable salt thereof; wherein

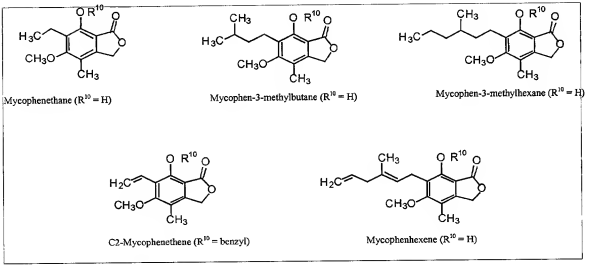
each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

each $R^{12}$ is independently hydrogen, alkyl or aryl; and

$R^{13}$ is lower alkyl (i.e. a $C_1$, $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkyl), lower alkenyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkenyl), lower alkynyl (i.e. a $C_2$, $C_3$, $C_4$, $C_5$ or $C_6$ alkynyl) or a $C_3$-$C_8$ cycloalkyl;

in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

48. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:

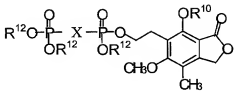


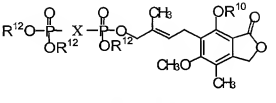

or its pharmaceutically acceptable salt thereof; wherein

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group;

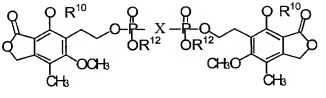
in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

49. A method for the treatment or prophylaxis of abnormal cellular proliferation in a host, comprising administering an effective amount of a compound selected from the group consisting of the following:





C4-MPAlcohol-ethylenebis(phosphonate)



or its pharmaceutically acceptable salt thereof, wherein

X is oxygen, sulfur, methylene, monofluoromethylene or difluoromethylene; and

each $R^{10}$ is independently hydrogen, alkyl, acyl, benzyl or methoxymethyl (MOM) group; and

each $R^{12}$ is independently hydrogen, alkyl or aryl;

in combination or alternation with one or more other effective antiproliferative agent, optionally in a pharmaceutically acceptable carrier or diluent.

50. The method of any one of Claims 22-49, wherein the host is a human.